



Procedure: C-A-EMP- SHOPS  
Revision: 04  
Revision Date: 03/01/04

## COLLIDER-ACCELERATOR DEPARTMENT

Title: Environmental Management Program For Combined Shops

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Group: ESH&Q

### Approvals

Signature on File Date: \_\_\_\_\_

ESH&Q Division Head

Signature on File Date: \_\_\_\_\_

Collider-Accelerator Department Chairman

(Indicate additional signatures)

Y N

☐ x FS Representative: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Radiological Control Coordinator: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Chief ME: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Chief EE: \_\_\_\_\_ Date: \_\_\_\_\_

x ☐ Environmental/P2 Coordinator: Signature on File Date: \_\_\_\_\_

☐ x QA Manager: \_\_\_\_\_ Date: \_\_\_\_\_

☐ x Other: \_\_\_\_\_ Date: \_\_\_\_\_

<p><b>ENVIRONMENTAL MANAGEMENT PROGRAM</b></p> <p><u>Processes 1 through 4: (1) C-A Staff Shops, (2) Vacuum Lab, (3) Electronic Assembly, and (4) Magnet Cleaning</u></p>	<p><b>Completed by:</b> <u>M. Van Essendelft</u></p> <p><b>Date:</b> <u>March 1, 2004</u></p>
<p><b>1. Significant Aspects:</b> (see table of "Criteria for Significant Aspects" for description of letter designation)</p> <ul style="list-style-type: none"> <li>• Hazardous Waste (a) (Process 1, 3)</li> <li>• Atmospheric Discharge (a) (Process 1, 3)</li> <li>• Regulated Industrial Waste (a) (Process 1, 2)</li> <li>• Radioactive Waste (a) (Process 4)</li> <li>• Liquid Discharge (b) (Process 4)</li> </ul>	
<p><b>2. Department-wide Objective(s):</b></p> <p>A. COMPLIANCE – (c) Improve Resource Conservation and Recovery Act (RCRA) and Radiological Waste Compliance</p> <p>B. COMPLIANCE – (d) Meet Federal and State Air Program Requirements including reducing the use of (and eventual phase out of) Ozone Depleting Substances (ODS) (EWMSD Environmental Objectives &amp; Targets FY2004, Sect. 2[d])</p> <p>C. COMPLIANCE – (e) Schedule and conduct regulatory compliance assessments to evaluate compliance to applicable regulations on a three-year cycle (ESD Environmental Objectives &amp; Targets FY2004, Sect. 2[e])</p> <p>D. POLLUTION PREVENTION – (a) Integrate pollution prevention (P2) into the work planning processes to reduce generation of hazardous, mixed, and low-level radioactive routine waste streams (FY04 Critical Outcome, Appendix B, 3.4.3, Pollution Prevention; EWMSD Environmental Objectives &amp; Targets FY2004, Sect. 3[a])</p> <p>E. POLLUTION PREVENTION – (b) Integrate pollution prevention (P2) to evaluate and implement pollution prevention opportunities. Expand awareness and involvement in the BNL P2 Program (FY04 Critical Outcome, Appendix B, 3.4.3, Pollution Prevention; EWMSD Environmental Objectives &amp; Targets FY2004, Sect. 3[b])</p> <p>F. POLLUTION PREVENTION – (c) Reduce or prevent generation of non-routine waste, including spills (FY04 Critical Outcome, Appendix B, 3.4.3, Pollution Prevention; EWMSD Environmental Objectives &amp; Targets FY2004, Sect. 3[c])</p> <p>G. GROUNDWATER PROTECTION - Fully implement groundwater protection program. Protect groundwater quality from further chemical and radiological releases, and remediate existing contaminated groundwater in a cost-effective and practical manner (EWMSD Environmental Objectives &amp; Targets FY2004, Sect. 5)</p>	
<p><b>3. Department-wide Target(s):</b></p> <p>A. (1) Review the list of Satellite Accumulation Areas (SAA's) and Radioactive Waste Accumulation Areas by February 27, 2004 and communicate any updated information to the Environmental &amp; Waste Management Services Division. (2) Set a goal of zero compliance violations in SAA's and Radioactive Accumulation Areas. Track and trend all violations</p> <p>B. By March 31, 2004, involve Environmental Compliance Representatives (ECRs) in review of applicable Clean Air Act regulatory requirements for those emission units, processes, and emission</p>	

sources covered by BNL's Title V permit to ensure that compliance assurance documentation is consistent with recommendations offered in the Facility Use Agreement environmental database on the web at [http://intranet.bnl.gov/esh/esd/FUA\\_Data.htm](http://intranet.bnl.gov/esh/esd/FUA_Data.htm)

- C. (1) Participate in the Liquid Effluent audit scheduled for the second quarter 2004. (2) Participate in the programmatic assessment of Document Control to be conducted by the Quality Management Office by February 2004. (3) Participate in the RCRA subject area assessment planned for Sept. 30, 2004.
- D. (1) Analyze all waste generating activities for pollution prevention and track volume of wastes diverted and cost savings realized through P2 methods. (2) Review all experiments in accordance with the Work Planning requirements, including consideration of pollution prevention opportunities
- E. Submit a minimum of two pollution prevention project proposals by December 15, 2003, or two success stories, or two lessons learned to the P2 Program Manager by September 15, 2004
- F. (1) Reduce spill response costs by ~\$30,000 through education on proper remediation of Subject Area allowed spill clean-up. This would represent ~ 50% reduction in costs associated with the reporting of minor spills. Reduce the average release volume of reportable spills by 10% through improved operator "tools" & response. (2) Develop a plan for the reduction of PCB carrying devices by 12/15/04. (3) Monitor waste generation rates for non-routine waste streams and report to line management on a quarterly basis
- G. Zero impact on groundwater quality from current operations, this will be measured by the number of confirmed impacts to groundwater quality resulting from current operations

#### **4. Department-wide Environmental Performance Indicator(s):**

- Tier I inspection results
- Number of SPDES Permit exceedences by C-A as reported by BNL ESD
- P2 projects, success stories, and lessons learned that are submitted to BNL P2 Council
- Number of significant spills at C-A facilities
- Volume/weight of routine wastes sent to BNL Waste Management Division
- Completion of tasks listed in Section 10

#### **5. Department-wide Program Description:**

Departmental self-assessment program, Tier I inspections, and annual compliance reviews by the C-A ESHQ Division ECR shall meet EWMSD Environmental Objectives & Targets FY2004. Tracking and trending waste generation and waste recycling as well as on time regulatory reporting shall contribute towards achieving EWMSD Environmental Objectives & Targets FY2004. Submitting pollution prevention projects, success stories or lessons learned shall contribute towards achieving FY04 Critical Outcome/Objective 3.4.3 Pollution Prevention. The minimization of wastes, prevention of spills and meeting SPDES permit limits shall also help satisfy the overall contract Objective 3.4, Improved ESH&Q.

A list of "Unfunded Environmental Liabilities" was drafted by Laboratory staff and reviewed with the DOE. The Department shall help further identify legacy issues in a comprehensive manner. Many of the issues identified in the draft list pose regulatory (e.g., storage of wastes for periods >1 year), environmental (e.g., contaminated media), and social risks to BNL. The C-A Department shall actively find a path forward to better define the scope and priority of the issues and seek/identify funding resources to implement cleanup. This effort shall contribute towards achieving FY04 Critical Outcome/Objective 3.4.1 Legacy Risk Management.

**6. Potential Environmental Impact(s):**

- Hazardous, industrial or radioactive waste mismanagement could contaminate the environment and incur RCRA or local agency penalties
- Improper discharges to the sanitary sewer system could result in a violation of the BNL SPDES permit
- Atmospheric discharges could contaminate the environment and/or violate NYSDEC air emission regulations

**7. Legal and Other Requirements:**

- Radioactive Waste Management
- Hazardous Waste Management
- Non-radioactive Airborne Emissions
- Liquid Effluents
- Pollution Prevention subject areas

**8. Operational Controls:** See [Operational Controls Form](#)**9. Budget:** Operating Budget**10. Structure, Authorities, Responsibilities**

Tasks	Person Responsible	Completion Dates
<p>A. Prepare and submit an updated listing of Satellite Accumulation Areas</p> <p>Track and report the number of SAA and Radioactive Accumulation Area non-compliances on a quarterly basis</p> <p>Prepare and submit the waste generation forecast for FY05 report progress against waste goals and, where appropriate, suggest P2 opportunities</p>	<p>C-A Environmental Coordinator</p> <p>C-A Environmental Coordinator</p> <p>C-A Environmental Coordinator</p>	
B. The C-A ECR shall review all emission points for compliance, documentation, and forward any updates to the ESD Subject Matter Expert.	C-A ECR	03/04
C. Facilitate and participate in applicable assessments Liquid Effluents, RCRA, & Document Control) and complete Compliance Assessment Cards in accordance with the Environmental Assessments SA	<p>C-A ECR – Liquid Effluents</p> <p>RCRA</p> <p>C-A QA Manager – Document Control</p>	<p>03/04</p> <p>09/04</p> <p>02/04</p>

<p>D. (1) Maintain records and report progress against waste goals and, where appropriate, suggest P2 opportunities</p> <p>(2) Review all experiments and routine operations, as a member of the ESRC and ASSRC, to recommend pollution prevention opportunities/alternate waste disposal paths</p>	<p>C-A Environmental Coordinator</p> <p>C-A ECR</p>	<p>Quarterly</p> <p>Ongoing</p>
<p>E. The C-A ECR shall facilitate the submission of a P2 proposal for the NSRL digital camera, and success stories for: (1) The reduction of 2 MW power by tuning of the RHIC refrigeration system (save \$2400/day or 48 MW-hr/day)</p> <p>(2) The reduction of 2 MW power in ATR while RHIC is on store (assume off for 2/3/ of a day saves \$1600/day or 32 MW-hr/day)</p>	<p>(1) C-A ECR</p> <p>(2) C-A ECR</p>	<p>12/03</p> <p>9/04</p>
<p>F. (1) Semi-annually distribute information on spill kits/materials and subject area requirements on spill clean-up and reportability. Track and report on C-A Spill costs (2) Submit ADS funding request for PCB's and track request. through to the final disposition (3) The C-A Environmental Coordinator shall prepare and submit quarterly reports that track non-routine waste amounts and costs for disposal</p>	<p>(1) ECR</p> <p>(2) ESHQ Division Head</p> <p>(3) Environmental Coord.</p>	<p>Semi-annually</p> <p>06/04</p> <p>Quarterly</p>
<p>G. Track the number of unusual or off normal events associated with groundwater impacts in current operations</p>	<p>C-A ESHQ Division Head</p>	<p>Semi-annually</p>